

Name\_\_\_\_\_

## Rational Exponent Equations

Date\_\_\_\_\_ Period\_\_\_\_\_

**Solve each equation.**

1)  $27 = x^{\frac{3}{2}}$

2)  $m^{\frac{3}{4}} = 27$

3)  $x^{-\frac{3}{2}} = \frac{1}{729}$

4)  $7 = r^{\frac{1}{2}}$

5)  $v^{\frac{5}{4}} = 243$

6)  $n^{\frac{3}{2}} = 125$

7)  $(n - 27)^{\frac{3}{2}} = 64$

8)  $26 = -1 + (27x)^{\frac{3}{4}}$

$$9) \ 3125 = (-1 - 18p)^{\frac{5}{3}}$$

$$10) \ 5 = 3 + 4a^{-\frac{1}{6}}$$

$$11) \ 4b^{-\frac{3}{4}} + 10 = \frac{21}{2}$$

$$12) \ -x^{\frac{3}{2}} = -27$$

$$13) \ -54 = 10 - (m - 10)^{\frac{3}{2}}$$

$$14) \ -5126 = -6 - 5(3x + 22)^{\frac{5}{3}}$$

$$15) \ 9 + 5\sqrt[3]{2m} = 29$$

$$16) \ 3646 = 1 + 5(4r + 17)^{\frac{3}{2}}$$

$$17) \ -646 = -3(65 - n)^{\frac{3}{2}} + 2$$

$$18) \ -3 + (8 - 2x)^{\frac{5}{4}} = 29$$

## Rational Exponent Equations

Date\_\_\_\_\_ Period\_\_\_\_

**Solve each equation.**

1)  $27 = x^{\frac{3}{2}}$

{9}

2)  $m^{\frac{3}{4}} = 27$

{81}

3)  $x^{-\frac{3}{2}} = \frac{1}{729}$

{81}

4)  $7 = r^{\frac{1}{2}}$

{49}

5)  $v^{\frac{5}{4}} = 243$

{81}

6)  $n^{\frac{3}{2}} = 125$

{25}

7)  $(n - 27)^{\frac{3}{2}} = 64$

{43}

8)  $26 = -1 + (27x)^{\frac{3}{4}}$

{3}

$$9) 3125 = (-1 - 18p)^{\frac{5}{3}}$$

$$\{-7\}$$

$$10) 5 = 3 + 4a^{-\frac{1}{6}}$$

$$\{64\}$$

$$11) 4b^{-\frac{3}{4}} + 10 = \frac{21}{2}$$

$$\{16\}$$

$$12) -x^{\frac{3}{2}} = -27$$

$$\{9\}$$

$$13) -54 = 10 - (m - 10)^{\frac{3}{2}}$$

$$\{26\}$$

$$14) -5126 = -6 - 5(3x + 22)^{\frac{5}{3}}$$

$$\{14\}$$

$$15) 9 + 5\sqrt[3]{2m} = 29$$

$$\{32\}$$

$$16) 3646 = 1 + 5(4r + 17)^{\frac{3}{2}}$$

$$\{16\}$$

$$17) -646 = -3(65 - n)^{\frac{3}{2}} + 2$$

$$\{29\}$$

$$18) -3 + (8 - 2x)^{\frac{5}{4}} = 29$$

$$\{-4\}$$